

Abstract Submitted
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Inclusive Coulomb breakup of ^{22}C and ^{31}Ne NOBUYUKI KOBAYASHI, TAKASHI NAKAMURA, YOSUKE KONDO, Department of Physics, Tokyo Institute of Technology, YOSHITERU SATO, Department of Physics and Astronomy, Seoul National University, RIBF-55 TEAM — One-neutron removal cross section of ^{31}Ne and two neutron-removal cross section of ^{22}C on Pb and C targets were measured at about 230 MeV/nucleon at RIBF (RI-Beam Factory) at RIKEN. This experiment aims at extracting the inclusive Coulomb breakup cross sections of these nuclei to see if these nuclei can involve halo structures. The enhancement of low-energy E1 strength, called “soft E1 excitation” is a unique property of halo nuclei. Hence, the enhancement of Coulomb breakup cross section can be used as a direct signal for halo structures. This measurement was made as one of experiments of “Day-One campaign” using ^{48}Ca primary beam at 345 MeV/nucleon. The typical secondary-beam intensities of 5-10 cps were obtained for ^{22}C and ^{31}Ne . The result indeed showed the significant enhancement of 1n(2n) removal cross sections for ^{31}Ne (^{22}C). This result thus shows the occurrence of soft E1 excitations, which suggests the 1n and 2n halo structures for ^{31}Ne and ^{22}C , respectively. We discuss also the possible shell melting in ^{31}Ne using both nuclear and Coulomb breakup data.

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